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10/510,966

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EXAMINER

BOMAR, THOMAS S

ART UNIT

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3676

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/510,966

Applicant(s)

COSTA ET AL.

Examiner

Shane Bomar

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,10-112,114 and 116-153 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 10-24,31,34,37,39-41,43,44,53,66-93,95,98,100-102,104,105,110-112, 116-118, 120, 132, 134-141, 145-147, 149, and 150.

Continuation of Disposition of Claims: Claims rejected are 1-5,25-30,32,33,35,36,38,42,45-52,54-65,94,96,97,99,103,106-109,114,119,121-131,133,142-144,148 and 151-153.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species I in the reply filed on February 11, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Furthermore, it is noted that, in addition to the claims the Applicant has withdrawn, claims 77, 86, 88, 89, 118, 120, 132, 134-141, 145-147, 149, and 150 are also being withdrawn by the Examiner. This is because claims 77, 86, 88, 89, and 118 depend from withdrawn claims, and because claims 120, 132, 134-141, 145-147, 149, and 150 contain the subject matter of non-elected species (e.g., compare claim 53 to 120 (external flange), compare claims 10-24 to 134-141 (retaining rings and sleeve deformation), etc.). The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. The drawings are objected to because drawing pages 61/72-72/72 contain figures/pictures that do not have figure numbers and are not described in the specification. They also do not conform to current drawing standards. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where

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necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The substitute specification filed October 12, 2004 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: no instructions were given for its entry and the statement as to a lack of new matter under 37 CFR 1.125(b) is missing.
4. The disclosure is objected to because of the following informalities:
 - a. The first paragraph appears to give incorrect information as compared to the Application Data Sheet.
 - b. The Brief Description section fails to mention the figures/pictures of drawing pages 61/72-72/72 (which do not have figure numbers as noted above).Appropriate correction is required.

Claim Objections

5. Claims 5, 58, 60, 62, 64, 108, and 153 are objected to because of the following informalities:
 - a. claims 5 and 64 do not end with the required punctuation mark;

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- b. in claim 58, the recitation of “within an end” should most likely be --within the end-- and the recitation of “within another end” should most likely be --within the other end--;
- c. in claim 60, the recitation of “within an end” should most likely be --within the end--;
- d. in claim 62, the recitation of “within another end” should most likely be --within the other end--; and
- e. in claims 108 and 153, the recitation of “the internal threads of the second tubular” lacks proper antecedent basis (second tubular is said to have external threads).
Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 32, 33, 35, 36, 45, 46, 54-65, 94, 96, 97, 99, 103, 106-109, 114, 119, 128-131, 133, 142-144, 148, and 152-153 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 32 and 128, it is unclear how the first and second tubular member can be radially expanded and deformed a second time since claims 1 and 125 already state that the members are radially expanded and deformed.

Regarding claims 45 and 46, the recitation of “radially expanding and plastically deforming...the tubular sleeve” lacks proper antecedent basis since claim 1 never states that the sleeve is expanded.

Regarding claims 54, 129-131, 133, 142-144, 148, and 151-153 as currently worded, it appears that the Applicant is claiming that the tubular sleeve comprises internal and external threads. However, analysis of the remaining claims and the specification lead one to believe that the first tubular member has the internal threads and the second tubular member has the external threads so that the two tubulars can be threaded together. Therefore, the claims will be examined as though the first tubular member has the internal threads and the second tubular member has the external threads.

Regarding claims 109, 114, and 119 as currently worded, it appears that the Applicant is claiming that the internal flange comprises internal and external threads. However, analysis of the remaining claims and the specification lead one to believe that the first tubular member has the internal threads and the second tubular member has the external threads so that the two tubulars can be threaded together. Therefore, the claims will be examined as though the first tubular member has the internal threads and the second tubular member has the external threads.

Any claims that depend from the aforementioned claims are also considered to be indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 28-30, 32, 33, 35, 36, 38, 42, 45, 46, 49-51, and 121-128 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,273,634 of Lohbeck.

Regarding claim 1, Lohbeck discloses a method, comprising: slidably coupling an end of a first tubular member 8 to an end of a tubular sleeve 6; slidably coupling an end of a second tubular member 9 to another end of the tubular sleeve; threadably coupling the ends of the first and second tubular members to the sleeve with screws 11 (Figs. 2); and radially expanding and plastically deforming the first tubular member and the second tubular member (claim 10).

Regarding claims 28-30, the screws 11 thus latch the ends of the first and second tubulars to the sleeve.

Regarding claims 32, 33, 35, 36, 45, and 46, the two tubulars and sleeve are radially expanded and plastically deformed into engagement with a wellbore or wellbore casing, the expansion provided by an expansion mandrel, or cone, that applies radial pressure to the interior surface (col. 1, lines 5-17).

Regarding claims 38 and 42, the sleeve is metallic based on the cross hatching of the drawing, wherein it is notoriously known that the sleeve can be broken if too much force is used on the screws, or if too much compression or tension is placed between the sleeve and the tubulars.

Regarding claim 49, a fluid tight seal is provided by the flush-type connection between the two tubulars and the sleeve before, during, and after expansion (col. 2, lines 23-35).

Regarding claims 50 and 51: during expansion, the sleeve will be in circumferential tension and the ends of the two tubulars will be in circumferential compression due to the expansion mandrel exerting radial pressure to the interior of the sleeve and tubulars; whereas, after expansion, the sleeve will be in circumferential compression and the ends of the two tubulars will be in circumferential tension due to the forces between the wall of the wellbore and the exterior of the sleeve and tubulars.

Regarding claim 121, Lohbeck discloses a method of radially expanding and plastically deforming a first tubular member 8/18 and a second tubular member 9/19, comprising: coupling an end of the first tubular member with an end of a tubular sleeve 6/16; coupling an end of the second tubular member with another end of the tubular sleeve (Figs. 2 and 3); placing the tubular members within a wellbore; and displacing an expansion device through the interiors of the first and second tubular members to radially expand and plastically deform portions of the first and second tubular members (claim 10).

Regarding claims 122 and 126, the ends of the first and second tubular members are received within the ends of the tubular sleeve (Fig. 2).

Regarding claims 123 and 127, the ends of the first and second tubular members receive the ends of the tubular sleeve (Fig. 3).

Regarding claims 124, 125, and 128, a fluid tight seal is provided by the flush-type connection between the two tubulars and the sleeve before, during, and after expansion (col. 2, lines 23-35).

6. Claims 54, 55, 57, 58, 60-62, 65, 103, 108, 129, 131, 148, and 153 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,564,875 of Bullock.

Regarding claim 54, Bullock discloses an apparatus, comprising: a tubular sleeve 120; a first tubular member 110 coupled to an end of the tubular sleeve, the first tubular comprising internal threads 105 at an end portion; and a second tubular member 115 coupled to another end of the tubular sleeve, the second tubular comprising external threads at an end portion that engage the internal threads of the end portion of the first tubular member (Fig. 1).

Regarding claims 55 and 129, the tubular sleeve is in circumferential tension because the tightening of the threads will cause the first tubular member to press outwardly against the sleeve to a certain extent; the end portion of the first tubular member is in circumferential compression and the end portion of the second tubular member is in circumferential compression due to the engagement of the threads between the two tubulars.

Regarding claims 57 and 131, the tubular sleeve comprises an internal flange 132 (Fig. 1).

Regarding claims 58 and 62, the end portion of the first tubular member at 135 is received within the end of the tubular sleeve; and wherein the end portion 130 of the second tubular member is received within the other end of the tubular sleeve.

Regarding claims 60 and 61, the end portion of the first tubular member at 135 is received within an end of the tubular sleeve so that the end portions of the first and second tubular members abut the internal flange of the tubular sleeve, the end of the second tubular being 127.

Regarding claim 65, the internal flange of the tubular sleeve is positioned at an end of the tubular sleeve (Fig. 1).

Regarding claims 103 and 148, the sleeve is preferably made of plastic, which can be frangible (col. 2, lines 47-50).

Regarding claims 108 and 153, the threads of the two tubulars provide a fluid tight seal at least due to the o-ring between the two sets of threads (o-ring is unlabeled, but seen near the top of the figure).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 64, 99, 133, 143, and 144 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock.

Regarding claim 64, although the flange of the sleeve is shown to be at an end of the sleeve, it would have been obvious to one of ordinary skill in the art to try placing the flange between the ends of the sleeve because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

Regarding claims 99 and 144, Bullock teaches that the sleeve can be made of commercially available materials (col. 2, lines 45-47). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the sleeve could be made of metal as it is notoriously known that metal is a commercially available material.

Regarding claim 133 and 143, Bullock teaches an apparatus with the limitations of claim 54 above, but it does not necessarily teach that the tubular sleeve has a sealing member for sealing the interface between the sleeve and one of the tubular members, or that a sealing member is coupled to the exterior of the sleeve.

Nevertheless, it can be seen near the top of the figure that an o-ring is between the two tubular members; therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to try placing a sealing member, such as the o-ring, between the sleeve and at least one of the tubulars, or on the exterior of the sleeve, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

10. Claims 106, 107, 151, and 152 are rejected under 35 U.S.C. 103(a) as being obvious over Bullock in view of US 6,557,640 of Cook et al.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claims 106, 107, 151, and 152, Bullock does not specifically teach that the first and second tubular members are amorously bonded or welded together.

Cook et al teach that threaded connections, such as that of Bullock, are part of a list of commercially available mechanical couplings, wherein amorously bonding and welding are also other types of commercially available mechanical couplings (col. 58, line 65 through col. 59, line 3). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use either amorphous bonding or welding in place of threads as the substitution of one known element for another would have yielded predictable results to one of ordinary skill.

11. Claims 2-5 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of US 6,263,968 of Freeman et al.

Lohbeck teaches the method of claim 1, as well as the additional steps in claim 51, wherein the two tubulars are connected to a sleeve. However, it is not explicitly taught that the sleeve comprises an internal flange for the ends of the two tubulars to abut.

Freeman et al teach two tubulars connected to a sleeve 608a similar to that of Lohbeck, wherein it is further taught that the sleeve has an internal flange between the ends of the sleeve (Fig. 9B). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to try placing the flange of Freeman et al between the ends of the sleeve of Lohbeck because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

12. Claims 25-27, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of Cook et al.

Lohbeck does not specifically teach that the first and second tubular members are amorously bonded or welded together.

Cook et al teach that threaded connections, such as that of Lohbeck, are part of a list of commercially available mechanical couplings, wherein amorously bonding and welding are also other types of commercially available mechanical couplings, which involve heating of at least the ends of the tubulars (col. 58, line 65 through col. 59, line 3). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use either amorously bonding or welding in place of threads as the substitution of one known element for another would have yielded predictable results to one of ordinary skill.

13. Claims 54-56, 94, 96, 97, 99, 103, 108, 129, 130, 142, 144, 148, and 153 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of Bullock.

Regarding claims 54, 94, 96, 97, 99, 103, 108, 142, 144, 148, and 153, Lohbeck teaches the method that comprises two tubular members; both with ends coupled to ends of a tubular sleeve (see all rejections with respect to Lohbeck above). However, it is not specifically taught that the first tubular has internal threads that threadably couple to external threads on the second tubular.

Bullock teaches two tubular members similar to that of Lohbeck; both with ends coupled to ends of a tubular sleeve (see all rejections with respect to Bullock above). It is further taught that the first tubular has internal threads that threadably couple to external threads on the second tubular (Fig. 1). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to try providing the first tubular of Lohbeck with internal threads that threadably couple to external threads on the second tubular because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

Regarding claims 55, 56, 129, and 130, Lohbeck teaches that: during expansion, the sleeve will be in circumferential tension and the ends of the two tubulars will be in circumferential compression due to the expansion mandrel exerting radial pressure to the interior of the sleeve and tubulars; whereas, after expansion, the sleeve will be in circumferential compression and the ends of the two tubulars will be in circumferential tension due to the forces between the wall of the wellbore and the exterior of the sleeve and tubulars.

14. Claims 57-64, 109, and 131 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of Bullock as applied to claim 54 above, and further in view of Freeman et al.

Lohbeck and Bullock teach the method of claim 54, wherein the two tubulars are connected to a sleeve. However, it is not explicitly taught that the sleeve comprises an internal flange for the ends of the two tubulars to abut.

Freeman et al teach two tubulars connected to a sleeve 608a similar to that of Lohbeck and Bullock, wherein it is further taught that the sleeve has an internal flange between the ends of the sleeve (Fig. 9B). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to try placing the flange of Freeman et al between the ends of the sleeve of Lohbeck because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

15. Claims 106, 107, 151, and 152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of Bullock as applied to claim 54 above, and further in view of Cook et al.

Lohbeck and Bullock do not specifically teach that the first and second tubular members are amorphously bonded or welded together.

Cook et al teach that threaded connections, such as that of Lohbeck/Bullock, are part of a list of commercially available mechanical couplings, wherein amorphously bonding and welding are also other types of commercially available mechanical couplings, which involve heating of at least the ends of the tubulars (col. 58, line 65 through col. 59, line 3). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use either amorphous bonding or welding in place of threads as the substitution of one known element for another would have yielded predictable results to one of ordinary skill.

16. Claims 114 and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lohbeck in view of Bullock, also in view of Freeman et al as applied to claims 57, 109, and 131 above, and further in view of US 6,354,734 of Curran et al.

The combination of Lohbeck, Bullock, and Freeman et al teach a method and apparatus for extracting oil and/or gas from a well (especially Lohbeck), with all of the claimed limitations (see above), with the exception of specifically stating that the well is for the extraction of geothermal energy.

However, it is notoriously known in the art that oil, gas, and geothermal wells are obvious variants of one another, with all of the well structure being the same while only the material extracted from the formation being different, as evidenced by at least Curran et al in column 1, lines 6-9. Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art that the well of Lohbeck would be for extracting geothermal energy.

Conclusion

17. The prior art made of record on form 892 and not relied upon is considered pertinent to applicant's disclosure. It is noted that at least some of the prior art on form 892 may have already been cited by the Applicant in an IDS, but due to the extremely large number of prior art references in the Applicants IDS's, the Examiner has no reasonable way of determining if there is in fact any overlap.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is (571)272-7026. The examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer H. Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shane Bomar/
Primary Examiner, Art Unit 3676